



# GC/MS Volatiles Case Narrative

---

## **Boston Chemical Corp** **Gulf Coast**

Work Order Number: 1008161

1. This report consists of 1 water sample. The sample was received cool and intact by ALS on 08/13/10. The vial for the sample contained headspace prior to analysis because it was not received headspace free into the volatiles laboratory.

The sample provided for volatiles had a pH > 2 at the time of analysis.

2. The sample was prepared according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared by purging 5 mL using purge and trap procedures based on Method 5030C.
3. The sample was analyzed using GC/MS with an RTX-624, RTX-VMS, or equivalent capillary column according to SOP 525 Revision 14 based on SW-846 Method 8260. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.
4. All initial calibration criteria for SW-846 Method 8260C were met.
5. All initial calibrations are verified by comparing a second source standard calibration verification (ICV) against the calibration curve. All criteria for initial calibration verification were met.
6. All criteria for were met in daily (continuing) calibration verifications (CCV).
7. Methylene chloride, acetone and 2-butanone are common laboratory contaminants. In order to minimize the levels of these compounds detected in the gc/ms analysis, ALS has designated its volatile laboratory as a restricted access area. In addition, the laboratory has been equipped with a dedicated, air intake and exhaust system that operates under positive pressure in order to minimize cross contamination of these compounds. Due to fluctuations in ambient laboratory conditions, reported sample values for common laboratory contaminants may be due to lab contamination even if the compound in question is not detected in the associated method blank.



All method blank criteria were met.


8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria.
9. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.
10. The sample was analyzed within the established holding time.
11. All surrogate recoveries were within acceptable limits with the following exception:

Surrogate	Sample	Direction
4-Bromofluorobenzene	1	High

The sample was re-analyzed to evaluate whether the original outlier was due to matrix effects or laboratory performance. The re-analysis also had surrogates outside the control limits, which suggests the presence of matrix effects.

12. All internal standard recoveries were within acceptance criteria.
13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in SOP 939 Revision 3. The chromatographic data system marks the manual integrations with an m on the quantitation report. Whenever manual integrations are performed, before and after chromatograms of the peak that was manually integrated are included in the report along with the reason why the re-integration was necessary.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

  
\_\_\_\_\_  
Sharon K. Jones  
Organics Primary Data Reviewer

8-25-10  
Date

  
\_\_\_\_\_  
Taylor Marshall  
Organics Final Data Reviewer

08-25-10  
Date



**ALS**  
**Data Qualifier Flags**  
**Chromatography and Mass Spectrometry**

- U or ND:** This flag indicates that the compound was analyzed for but not detected.
- J:** This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.
- B:** This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.
- E:** This flag identifies compounds whose concentration exceeds the upper level of the calibration range.
- A:** This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.
- X:** This flag indicates that the analyte was diluted below an accurate quantitation level.
- \*:** This flag indicates that a spike recovery is equal to or outside the control criteria used.
- +:** This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.

# ALS Environmental -- FC

## Sample Number(s) Cross-Reference Table

---

**Paragon OrderNum:** 1008161

**Client Name:** Boston Chemical Corp

**Client Project Name:** Gulf Coast

**Client Project Number:**

**Client PO Number:**

---

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
DWH 151 W	1008161-1		WATER	10-Aug-10	6:35

---

**ALS Environmental**

**www.elsevier.com**

**excellence in analytical testing**

Winnipeg, MB R4S 1A6 Logan Avenue, R3E 3L5 Toll Free: 1-800-607-7555 Fax: 204-948-0763

Thunder Bay, ON 1081 Barton Street, P7B 5N3 Tel: 807-623-6463 Fax: 807-623-7596

London, ON, #29 - 300 Exeter Road, N6L 1C1 Tel: 519-552-8044 Fax: 519-552-0871

Burlington, ON N6 - 5420 Mainway Drive, L7L 6A4 Tel: 905-331-3111 Toll Free: 1-888-257-3884 Fax: 905-331-4567

Waterloo, ON #1 - 80 Northland Road, N2V 2B8 Toll Free: 1-800-888-8878 Fax: 519-888-8047

Ottawa, ON #13 - 210 Colonnade Road, K2E 7L5 Tel: 613-731-1006 Fax: 613-738-1107

100 8/61

### CHAIN OF CUSTODY FORM

PAGE 1 OF 1

**SEND REPORT TO:**[illegible]



## CONDITION OF SAMPLE UPON RECEIPT FORM

Client: ALC BurlingtonWorkorder No: 1008161Project Manager: JKInitials: CR Date: 8-13-10

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	NO
2. Are custody seals on shipping containers intact?	NONE	YES	NO
3. Are Custody seals on sample containers intact?	NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		YES	NO
5. Are the COC and bottle labels complete and legible?		YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		YES	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	YES	NO
10. Is there sufficient sample for the requested analyses?		YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		YES	NO
12. Are all samples within holding times for the requested analyses?		YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: _____ < green pea _____ > green pea	N/A	YES	NO
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	N/A	YES	NO
16. Were samples checked for and free from the presence of residual chlorine? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	YES	NO
17. Were the samples shipped on ice?		YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #2 #4	RAD ONLY	YES
Cooler #: <u>1</u>			
Temperature (°C): <u>5.4</u>			
No. of custody seals on cooler: <u>0</u>			
External µR/hr reading: <u>12</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

If applicable, was the client contacted? YES / NO / NA Contact: H. Kallafon Date/Time: 8/12/10Project Manager Signature / Date: [Signature] 8/17/10

\*IR Gun #2: Oakton, SN 29922500201-0066

\*IR Gun #4: Oakton, SN 2372220101-0002

From: Origin ID: YATA (905) 331-3111  
 Brandon Gingrich  
 ALS Environmental  
 5420 Mainway Drive unit 5



J18291805250325

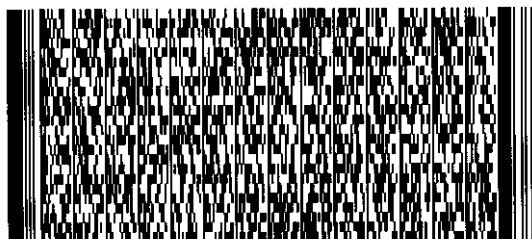
Burlington, ON L7L6A4  
 CANADA

SHIP TO: (970) 490-1511

BILL SENDER

Jeff Kujawa  
 ALS Environmental  
 225 COMMERCE DR

FORT COLLINS, CO 80524  
 US



These commodities, technology, or software were exported from Canada in accordance with the export administration regulations. Diversion contrary to Canadian law prohibited.

The Warsaw Convention may apply and will govern and in most cases limit the liability of Federal Express for loss or delay of or damage to your shipment. Subject to the conditions of the contract.

CONSIGNEE COPY - PLEASE PLACE IN POUCH

Ship Date: 12AUG10  
 ActWgt: 17.0 LB  
 CAD: 8904531/INCA3060

Dims: 10 X 10 X 12 IN

REF:  
 DESC-1: Environmental Samples  
 DESC-2:  
 DESC-3:  
 DESC-4:

COUNTRY MFG: CA  
 CARRIAGE VALUE: 2.00 CAD  
 CUSTOMS VALUE: 2.00 CAD  
 T/C: S 311493060 D/T: S 311493060  
 SIGN: Brandon Gingrich  
 EIN/VAT:  
 PKG TYPE: CUSTOMER

TRK# 7938 1823 2090  
 0430

A2

INTL PRIORITY

ISR

80524

CO-US

DEN

NR FTCA



508G43306/9A24

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

**LEGAL TERMS AND CONDITIONS OF FEDEX SHIPPING DEFINITIONS.** On this Air Waybill, "we", "our", "us", and "FedEx" refer to Federal Express Corporation, its subsidiaries and branches and their respective employees, agents, and independent contractors. The terms "you" and "your" refer to the shipper, its employees, principals and agents. If your shipment originates outside the United States, your contract of carriage is with the FedEx subsidiary, branch or independent contractor who originally accepts the shipment from you. The term "package" means any container or envelope that is accepted by us for delivery, including any such items tendered by you utilizing our automated systems, meters, manifests or waybills. The term "shipment" means all packages which are tendered to and accepted by us on a single Air Waybill. **AIR CARRIAGE NOTICE.** For any international shipments by air, the Warsaw Convention, as amended, may be applicable. The Warsaw Convention, as amended, will then govern and in most cases limit FedEx's liability for loss, delay of, or damage to your shipment. The Warsaw Convention, as amended, limits FedEx's liability. For example in the U.S. liability is limited to \$9.07 per pound (20\$ per kilogram), unless a higher value for carriage is declared as described below and you pay any applicable supplementary charges. The interpretation and operation of the Warsaw Convention's liability limits may vary in each country. There are no specific stopping places which are agreed to and FedEx reserves the right to route the shipment in any way FedEx deems appropriate. **ROAD TRANSPORT NOTICE.** Shipments transported solely by road to or from a country which is a party to the Warsaw Convention or the Contract for the International Carriage of Goods by Road (the "CMR") are subject to the terms and conditions of the CMR, notwithstanding any other provision of this Air Waybill to the contrary. For those shipments transported solely by road, if a conflict arises between the provisions of the CMR and this Air Waybill, the terms of the CMR shall prevail. **LIMITATION OF LIABILITY.** If not governed by the Warsaw Convention, the CMR, or other international treaties, laws, other government regulations, orders, or requirements, FedEx's maximum liability for damage, loss, delay, shortage, mis-delivery, non-delivery, misinformation or failure to provide information in connection with your shipment is limited by this Agreement and as set out in the terms and conditions of the contract of carriage. Please refer to the contract of carriage set forth in the applicable FedEx Service Guide or its equivalent to determine the contractual limitation. FedEx does not provide cargo liability or all-risk insurance, but you may pay an additional charge for each additional U.S. \$100 (or equivalent local currency for the country of origin) of declared value for carriage. If a higher value for carriage is declared and the additional charge is paid, FedEx's maximum liability will be the lesser of the declared value for carriage or your actual damages. **LIABILITIES NOT ASSUMED.** IN ANY EVENT, FEDEX WON'T BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL IN EXCESS OF THE DECLARED VALUE FOR CARRIAGE (INCLUDING BUT NOT LIMITED TO LOSS OF INCOME OR PROFITS) OR THE ACTUAL VALUE OF THE SHIPMENT, IF LOWER, WHETHER OR NOT FEDEX HAD ANY KNOWLEDGE THAT SUCH DAMAGES MIGHT BE INCURRED. FedEx won't be liable for your acts or omissions, including but not limited to incorrect declaration of cargo, improper or insufficient packaging, securing, marking or addressing of the shipment, or for the acts or omissions of the recipient or anyone else with an interest in the shipment or violations by any party of the terms of this agreement. FedEx won't be liable for damage, loss, delay, shortage, mis-delivery, non-delivery, misinformation or failure to provide information in connection with shipments of cash, currency or other prohibited items or in instances beyond our control, such as acts of God, perils of the air, weather conditions, mechanical delays, acts of public enemies, war, strike, civil commotion, or acts or omissions of public authorities (including customs and health officials) with actual or apparent authority. **NO WARRANTY.** We make no warranties, express or implied. **CLAIMS FOR LOSS, DAMAGE OR DELAY.** ALL CLAIMS MUST BE MADE IN WRITING AND WITHIN STRICT TIME LIMITS. SEE OUR TARIFF, APPLICABLE FEDEX SERVICE GUIDE, OR STANDARD CONDITIONS OF CARRIAGE FOR DETAILS. The Warsaw Convention provides specific written claims procedures for damage, delay or non-delivery of your shipment. Moreover, the interpretation and operation of the Warsaw Convention's claims provisions may vary in each country. Refer to the Convention to determine the claims period for your shipment. The right to damages against us shall be extinguished unless an action is brought within two years, as set forth in the Convention. FedEx is not obligated to act on any claim until all transportation charges have been paid. The claim amount may not be deducted from the transportation charges. If the recipient accepts the shipment without noting any damage on the delivery record, FedEx will assume the shipment was delivered in good condition. In order for us to consider a claim for damage, the contents, original shipping carton and packing must be made available to us for inspection. **MANDATORY LAW.** Insofar as any provision contained or referred to in this Air Waybill may be contrary to any applicable international treaties, laws, government regulations, orders or requirements such provisions shall remain in effect as a part of our agreement to the extent that it is not overridden. The invalidity or unenforceability of any provisions shall not affect any other part of this Air Waybill. Unless otherwise indicated, **FEDERAL EXPRESS CORPORATION**, 2005 Corporate Avenue, Memphis, TN 38132, USA, is the first carrier of this shipment. Email address located at [www.fedex.com](http://www.fedex.com).

# GC/MS Volatiles

Method SW8260

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1008161

Client Name: Boston Chemical Corp

ClientProject ID: Gulf Coast

Lab ID: VL100813-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 13-Aug-10

Date Analyzed: 13-Aug-10

Prep Method: SW5030 Rev C

Prep Batch: VL100813-3

QCBatchID: VL100813-3-1

Run ID: VL100813-3A

Cleanup: NONE

Basis: N/A

File Name: C23241

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
104-76-7	2-ETHYLHEXANOL	1	10	10	U	

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50.5		50	101	74 - 123

Data Package ID: VL1008161-1

Date Printed: Monday, August 23, 2010

ALS Environmental -- FC

LIMS Version: 6.393A

Page 1 of 1



# GC/MS Volatiles

Method SW8260

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1008161

Client Name: Boston Chemical Corp

ClientProject ID: Gulf Coast

Field ID:	DWH 151 W
Lab ID:	1008161-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 10-Aug-10

Date Extracted: 13-Aug-10

Date Analyzed: 13-Aug-10

Prep Method: SW5030 Rev C

Prep Batch: VL100813-3

QCBatchID: VL100813-3-1

Run ID: VL100813-3A

Cleanup: NONE

Basis: As Received

File Name: C23250

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
104-76-7	2-ETHYLHEXANOL	1	23	10		

## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	68.2	*	50	136	74 - 123

Data Package ID: VL1008161-1

Date Printed: Monday, August 23, 2010

ALS Environmental -- FC

LIMS Version: 6.393A

Page 1 of 1

# GC/MS Volatiles

Method SW8260

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1008161

Client Name: Boston Chemical Corp

ClientProject ID: Gulf Coast

Lab ID: VL100813-3LCS	Sample Matrix: WATER % Moisture: N/A Date Collected: N/A Date Extracted: 08/13/2010 Date Analyzed: 08/13/2010 Prep Method: SW5030C	Prep Batch: VL100813-3 QCBatchID: VL100813-3-1 Run ID: VL100813-3A Cleanup: NONE Basis: N/A File Name: C23238	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: UG/L Clean DF: 1
-----------------------	---	--	---

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
104-76-7	2-ETHYLHEXANOL	40	37.8	10		94	50 - 150%

Lab ID: VL100813-3LCSD	Sample Matrix: WATER % Moisture: N/A Date Collected: N/A Date Extracted: 08/13/2010 Date Analyzed: 08/13/2010 Prep Method: SW5030C	Prep Batch: VL100813-3 QCBatchID: VL100813-3-1 Run ID: VL100813-3A Cleanup: NONE Basis: N/A File Name: C23239	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: UG/L Clean DF: 1
------------------------	---	--	---

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
104-76-7	2-ETHYLHEXANOL	40	35.3	10		88	20	7

## Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50	101		103		74 - 123

Data Package ID: VL1008161-1

Date Printed: Monday, August 23, 2010

ALS Environmental -- FC

Page 1 of 1

LIMS Version: 6.393A